

SECRET

16 March 1964

MEMORANDUM FOR THE RECORD

SUBJECT: Trip to [] for Monitoring Stereo Point Transfer Device, High Precision Viewer and Stereo Chip Comparator

1. Stereo Point Transfer Device - Accuracy. Question the pointing accuracy (repeatability) in the comparator mode. Pointing error will be approximately the same as the accuracy $2.5\mu + .005\%$ of the distance. [] will prepare a comprehensive statement of pointing error potential, accuracy and test procedures.

2. Vacuum Hold-Down. New [] glass with microgrooves having polished edges shows definite promise for practically invisible grooves. Good layout complete. No other progress.

3. Controls. [] engineers reported that the joystick types requested by us would cost [] in small quantities. In addition, there may be practical and economic limitation to the degree of control requested on the joystick. [] agreed with the right hand joystick, left hand auxiliary control concept. They were advised of users' reservations at having extensive control in joystick. They will continue to analyze problem and prepare a recommended layout in the near future.

4. Eye Station Module. [] proposed a boom type support like that on an overhead supported radial saw. Assembly would not rotate. Oculars would. Vertical displacement would probably be motor controlled. Monitor agreed that this appeared to be satisfactory.

5. High Intensity Illumination.

a. Contractor again warned of color temperature specification (3400°K min). Dimming must not be accomplished through lowering color temperature to objectionable level. [] reported that the chosen lamp had a normal operating color temperature of 3700°K and that it could be dimmed to 10% without going 3000°K . The monitor agreed that such performance would be acceptable.

b. The problem of adequate brightness at all magnifications was discussed again. [] was discouraged with the low magnification problem. He requested elimination of the low magnification objective. Further discussion revealed that the [] glass may alleviate the problem. [] will investigate. The contract monitor stated that 400 foot lamberts is not adequate, but that all magnifications should have at least 1000 foot lamberts.

6. Laser Marking. Sample marks requested on the last visit were not prepared - this was due to laser power supply failure. [] is obtaining newer models for operational systems. They should be able to continue this study within a week.

7. Stereo Chip Comparator. This device was viewed in almost completely assembled form. The structure and the cabinetry were impressive in appearance. [] was very concerned over the fact that the [] objectives were not parfocal. The [] focussing system is only suitable for fine focus - it is not practical for the focal differences of the [] objectives (over 1 inch). It was noted that this is not a true stereo comparator and that there may be some objection to the manipulation required to maintain or recover stereo fusion when traversing between points. It was also noted that the [] has no binocular monoscopic mode.

8. Potential developments were discussed in the following areas:

- a. Contact Chip Printer.
- b. Two possible light tables.
- c. Image Intensifier Screen.
- d. Two auto-focus problems.
- e. Light Modulation Viewer.

9. []

This company was suggested by [] as a possible producer of a fast response, reversible photo sensitive medium. I spoke to Mr. [] who confirmed that they possessed such a material and described its property as "phototropic". No details could be learned, however, since the material is under security wraps. [] gave me the name of the contracting agency and monitor -

Bureau of Naval Weapons
Code RRMA-34
[]

I will attempt to obtain clearance for viewing this material.

[]
Development Branch, P&DS